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APPLICATION OF REMOTE SENSING

FOR FISHERY RESOURCE

ASSESSMENT AND MONITORING

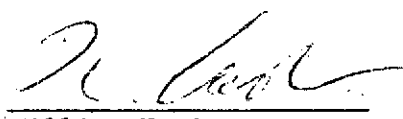
SKYLAB EXPERIMENT NO. 240

CONTRACT NO. T-8217B

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Approved


William H. Stevenson
Principal Investigator

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APPLICATION OF REMOTE SENSING
FOR FISHERY RESOURCE
ASSESSMENT AND MONITORING

INTRODUCTION

This is the seventh of a monthly series of progress reports required by the Statement of Work for Project 240, entitled Application of Remote Sensing for Oceanic Gamefish Assessment and Monitoring, under Contract No. T-8217B.

OVERALL STATUS

The post mission analytical phase is in progress.

SKYLAB EREP IMAGERY

No Skylab data has been obtained as of this time. However, a dump of a portion of an S192 test tape (simulated data) was received and has been turned over for verification of the operation of the computer programs which have been written to handle the data as it is received from the Johnson Space Center. The verification will be made during the next two reporting periods.

The most recent advisory from the Johnson Space Center on the availability of requested EREP imagery is as follows:

<u>SENSOR</u>	<u>PRODUCT</u>	<u>AVAILABILITY</u>
190A	70mm	December 1973
190A	9 x 9 Transparencies	15 February 1974
190B	70mm	15 February 1974
191	Computer Compatible Tape	15 February 1974
192	Computer Compatible Tape	15 June 1974

AIRCRAFT PHOTOGRAPHY/IMAGERY

The following data from the C130 aircraft is on hand:

- RC-8 color infrared photography, with some apparent problems with color variations across format created in the duplication process.
- I²S multiband photography is of good quality.
- AMPS multiband photography was not all successfully acquired; one roll (N016) from the unit at position 10 has been received and appears to be of satisfactory quality. (S0356 film)
- Reconofax IV scanner imagery does not appear to be of great potential value except perhaps as a backup for the thermal channel of the MSS.
- The camera correlation report indicates that the LTN-51 was operating with good precision during the mission. There is some question about one of the flight lines, but the maximum possible error found is on the order of one nautical mile.

Other C130 data which has not been received as of this time includes:

- MSS tapes, which will be duplicated and shipped during the next reporting period.
- Hasselblad photography; the investigators examined this photography in Houston and decided that the products were not potentially useful, so the duplicates were not produced for this project. However, it has been found desirable during the past reporting period to have at least one roll of the Hasselblad photography to fill a gap in coverage by the RC-8 on one of the flight lines. One roll of this imagery was duplicated as part of another investigator's requirement for another portion of the same roll. If the duplicate has not been discarded, it will be shipped.

- AMPS photography will not be obtained for the other five positions.

The original requirement was for the CC, GG, BB, and AA filter bands, but none of the appropriate cameras functioned properly. Consequently, only the one roll already received was produced.

The following data products from the E-18 aircraft have been completed and are available for analysis:

- K-17 photography, good quality.
- Hasselblad photography, color and color IR, both good quality.
- RS-18 original microfilm image, good quality.
- E-20-D time history plots have been completed after normal calibration and correction for an abnormal bias.

Computer cards will be punched from the E-20-D data as soon as the position of the E-18 aircraft has been determined with the best accuracy. They will be available early in the next reporting period.

EXPECTED ACCOMPLISHMENTS

Two special products are being prepared at this time. The composite thermal map will eventually contain information derived from the C130 MSS thermal channel and the PRT-5 as well as the IR spectrometer and thermal channel of the MSS aboard Skylab. However, at present, the only data being used is the radiometric temperature sensed by the RS-18 scanner flown on the E-18 aircraft. This data is corrected for atmospheric effects and is currently being geographically correlated. The RS-18 data will be in final form for use in this composite map early in the next reporting period.

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The other product is a map showing rips visible in the C130 photography. The first phase of this effort is the locating of the aircraft in terms of geographic position. This map will be complete near the end of the next reporting period. After the product is completed, the photography will again be examined to determine whether the observed rips are foam or grass, and the notation will be added to the map.

During the next reporting period, initial attempts to analyze the remote data are scheduled. The information from the E-20-D will be used in algorithms already developed to compute chlorophyll A concentrations and turbidity along the aircraft flight path. The remotely measured values will then be compared to the contours derived from the surface measurements.

RESULTS

Verification and quality evaluation of remote data receipts occurred during this reporting period. Also, there was a limited amount of data processing leading to products usable to investigators.

SUMMARY OUTLOOK

Further delays in receipt of EREP data will curtail usefulness of the data during the remainder of the project life. Based on the current schedule, not all EREP data will have been received prior to submission of the project final draft report.